

CHRISTMAS EYE IN THE RURAL SETTING

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Christmas Eye



Introduction

- Christmas eye typically presents as a unilateral, red, painful eye
- On investigation, an unexplained corneal ulcer is identified
- Also known as harvester's eye, seasonal corneal ulcer or the Albury-Wodonga syndrome
- Very little evidence based literature available.
- Seymour Health has had increasing presentations over the last 3 years.

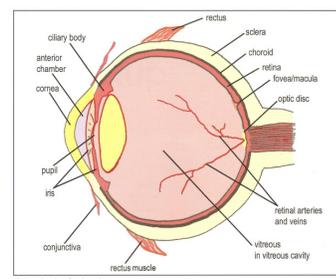
Seymour statistics

- Summer 2011-12 = 6 cases
- Summer 2012-13 = 11 cases including one of our own staff members
- Proposed audit and research project for 2013-14 season

Session overview

- Eye anatomy
- Epidemiology
- Possible causes
- Patient history and physical assessments
- Differential diagnosis
- Diagnostic tests
- Pathophysiology
- Treatment
- Follow-up and referral.

Eye anatomy



Epidemiology

- Common in the south-west of New South Wales and the north-east of Victoria.
- Occurs in the hot dry (windy) months of the Australian summer.
- Affects any age group and is indiscriminate of sex. (Howsam, 1995)
- Incidences appear to be rising – 20 reported cases over 9 years in the 1970's compared to 227 cases in 1993 alone. (Colvin, 1979) (Su & Taylor, 1997)

Causes

- The exact cause of Christmas eye remains unknown.
- Research has failed to isolate bacteria, fungi or viruses in smears from affected eyes.
- Nor have any eosinophils, pollen or spores been identified. (Walker, 1972)

Possible causes

- Circumstantial evidence that the flying beetle *Orthoperus* sp. releases a toxin into the eye.
- Latent interval of symptom onset may be explained by an auto-catalytic reaction. (Walker, 1972)

Orthoperus sp.



Patient History

- Classically these patients are woken from their sleep with what appears to be disproportional pain to one eye.
- No pmx of previous trauma or foreign body
- Usually outdoors at dusk the previous evening.
- Windy and lots of flying bugs present the preceding day / evening.
- Presents during the hot dry months of Nov. To Feb.

Physical assessments

- Visual acuity
- Ocular eye motility
- Pupil function
- General appearance
- Vital signs

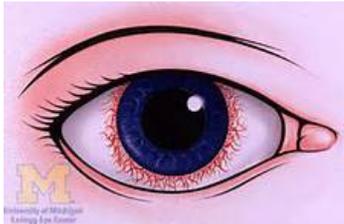
Non-standard Snellen chart



Physical assessments cont.

- Visual acuity
- Ocular eye motility
- Pupil function
- General appearance
- Vital signs

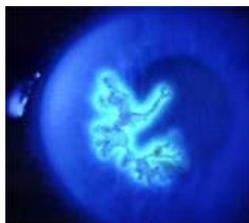
Ciliary flush



Differential diagnosis

- Penetrating eye injury or foreign body.
- Uveitis.
- Acute angle-closure glaucoma.
- Viral conjunctivitis.
- Herpes Simplex Virus (HSV).

Dendritic eye ulcer



Diagnostic tests

- Eyelid eversion
- Slit-lamp examination

Eyelid eversion



Slit-lamp examination



Ulcerated eye



Pathophysiology

- Ulceration on the epithelial surface of the cornea may induce an inflammatory cascade.
- This can cause discomfort, tearing, redness and pain.
- Ulcerations have a higher pH than normal epithelium, hence the fluorescein sodium uptake glows bright green under a cobalt blue light.

Classic characteristics

- Disproportional pain for symptoms.
- Photophobia, increased lacrimation, mild upper-lid swelling, conjunctival redness and decreased visual acuity. (Muecke, 1996)
- Unexplained corneal ulcer seen under fluorescein staining and slit-lamp examination.

Treatment

- Oral pain relief
- NSAID eye drops (such as Diclofenac sodium 1mg/mL, one drop TDS)
- Prophylactic antibiotics

Follow-up and referral

- Healing times for corneal ulcers vary according to the size and depth. General consensus is that wound closure and superficial healing takes place within 48 – 72 hours. (Marsden, 2002)
- Referral to a specialist facility or ophthalmologist is required if there is no definitive diagnosis or if healing is delayed. (Moulds, 2000)

Education

- Take this opportunity to educate your patients (and staff) about Christmas Eye.
- Fact sheets

Conclusion

- Consider Christmas eye when your patient presents...
- Early hours of the morning with a unilateral, painful, red eye with no remarkable pmx.
- It is between the months of Nov. To Feb. In rural Australia.
- You observe a smooth corneal ulcer with no evidence of a foreign body.

Questions or cases

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References

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